

WHAT IS CLAIMED IS:

1. A fertile transgenic maize plant comprising a chromosomally integrated expression cassette comprising (i) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (ii) a promoter active in maize operably linked to said EPSPS gene, wherein the yield of said fertile transgenic maize plant is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said modified maize gene.
2. The maize plant of claim 1, wherein said promoter is selected from the group consisting of a rice actin promoter, a maize histone promoter and a fused CaMV 35S-*Arabidopsis* histone promoter.
3. The maize plant of claim 2, wherein said expression cassette is derived from pDPG434, pDPG427 or pDPG443.
4. The maize plant of claim 3, wherein said expression cassette is pDPG434 and the maize plant is further defined as comprising a transformation event selected from the group consisting of GA21 and FI117, seed comprising said GA21 transformation event having been deposited as ATCC Accession Number 209033 and seed comprising said FI117 transformation event having been deposited as ATCC Accession Number 209031.
5. The maize plant of claim 4, wherein the transformation event is GA21 and said maize plant is further defined as comprising an bar gene.
6. The maize plant of claim 3, wherein said expression cassette is pDPG427 and the maize plant is further defined as comprising the transformation event GG25, seed comprising said GG25 transformation event having been deposited as ATCC Accession Number 209032.

7. The maize plant of claim 3, wherein said expression cassette is pDPG443 and the maize plant is further defined as comprising the transformation event GJ11, seed comprising said GJ11 transformation event having been deposited as ATCC Accession Number 209030.

5 8. Progeny of any generation of a fertile transgenic maize plant comprising a chromosomally integrated expression cassette comprising (i) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (ii) a promoter active in maize operably linked to said EPSPS gene, wherein the yield of said progeny is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said modified maize gene.

10 9. Seeds of a fertile transgenic maize plant of claim comprising a chromosomally integrated expression cassette comprising (i) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (ii) a promoter active in maize operably linked to said EPSPS gene, wherein the yield of said fertile transgenic maize plant is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said modified maize gene.

15 10. Seeds of the progeny of any generation of a fertile transgenic maize plant comprising a chromosomally integrated expression cassette comprising (i) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (ii) a promoter active in maize operably linked to said EPSPS gene, wherein the yield of said progeny is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said modified maize gene.

20 11. A method of preparing a fertile transgenic maize plant comprising:
(i) providing an expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at

position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;

- (ii) contacting recipient maize cells with said expression cassette under conditions permitting the uptake of said expression cassette by said recipient cells;
- (iii) selecting recipient cells comprising a chromosomally incorporated expression cassette;
- (iv) regenerating plants from said selected cells; and
- (v) identifying a fertile transgenic maize plant, the yield of which is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said modified maize gene.

12. The method of claim 11, wherein said contacting comprises microprojectile bombardment, electroporation or *Agrobacterium*-medicate transformation.

13. The method of claim 11, wherein said selecting comprises treating recipient cells with glyphosate.

14. The method of claim 11, wherein said promoter is selected from the group consisting of a rice actin promoter, a maize histone promoter and a fused CaMV 35S-*Arabidopsis* histone promoter.

15. The method of claim 14, wherein said expression cassette is derived from pDPG434, pDPG427 and pDPG443.

16. The method of claim 15, wherein said expression cassette is pDPG434 and the maize plant is further defined as comprising a transformation event selected from the group consisting of GA21 and FI117.

17. The method of claim 16, wherein the transformation event is FI117, and said maize plant is further defined as comprising an bar gene.

18. The method of claim 15, wherein said expression cassette is pDPG427 and the maize plant is further defined as comprising the transformation event GG25.

19. The method of claim 15, wherein said expression cassette is pDPG443 and the maize plant is further defined as comprising the transformation event GJ11.

20. A fertile transgenic maize plant prepared according to a method comprising:

- (i) providing an expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
- (ii) contacting recipient maize cells with said expression cassette under conditions permitting the uptake of said expression cassette by said recipient cells;
- (iii) selecting recipient cells comprising a chromosomally integrated expression cassette;
- (iv) regenerating plants from said selected cells; and
- (v) identifying a fertile transgenic maize plant, the yield of which is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said modified maize gene.

21. The maize plant of claim 20, wherein said promoter is selected from the group consisting of a rice actin promoter, a maize histone promoter and a fused CaMV 35S-*Arabidopsis* histone promoter.

22. The maize plant of claim 20, wherein said expression cassette is derived from pDPG434, pDPG427 and pDPG443.

23. Progeny of any generation of a fertile transgenic maize plant prepared according to a method comprising:

- (i) providing an expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
- (ii) contacting recipient maize cells with said expression cassette under conditions permitting the uptake of said expression cassette by said recipient cells;
- (iii) selecting recipient cells comprising a chromosomally integrated expression cassette;
- (iv) regenerating plants from said selected cells; and
- (v) identifying a fertile transgenic maize plant, the yield of which is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said expression cassette.

24. Seeds of a fertile transgenic maize plant wherein said fertile transgenic maize plant is prepared according to a method comprising:

- (i) providing an expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
- (ii) contacting recipient maize cells with said expression cassette under conditions permitting the uptake of said expression cassette by said recipient cells;
- (iii) selecting recipient cells comprising a chromosomally integrated expression cassette;
- (iv) regenerating plants from said selected cells; and
- (v) identifying a fertile transgenic maize plant, the yield of which is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said

expression cassette.

25. Seeds of the progeny of any generation of a fertile transgenic maize plant, wherein said fertile transgenic maize plant is prepared according to a method comprising:

- (i) providing an expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
- (ii) contacting recipient maize cells with said expression cassette under conditions permitting the uptake of said expression cassette by said recipient cells;
- (iii) selecting recipient cells comprising a chromosomally integrated expression cassette;
- (iv) regenerating plants from said selected cells; and
- (v) identifying a fertile transgenic maize plant, the yield of which is not affected by a glyphosate application rate that affects the yield of a maize plant lacking said expression cassette.

26. A glyphosate resistant, inbred, fertile maize plant comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene.

27. The maize plant of claim 26, wherein said promoter is selected from the group consisting of a rice actin promoter, a maize histone promoter and a fused CaMV 35S-*Arabidopsis* histone promoter.

28. The maize plant of claim 27, wherein said expression cassette is derived from pDPG434, pDPG427 and pDPG443.

29. The inbred maize plant of claim 28, further defined as comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117.

30. A glyphosate resistant, crossed fertile transgenic maize plant prepared according to the method comprising:

- (i) obtaining a fertile transgenic maize plant comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
- (ii) crossing said fertile transgenic maize plant with a second maize plant lacking said expression cassette to obtain a third maize plant comprising said expression cassette; and
- (iii) backcrossing said third maize plant to obtain a backcrossed fertile maize plant;

wherein said modified EPSPS gene is inherited through a male parent.

31. The maize plant of claim 30, wherein said second maize plant is an inbred.

32. The maize plant of claim 30, wherein said third maize plant is a hybrid.

33. The maize plant of claim 30, further defined as comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117.

34. A glyphosate resistant, crossed fertile transgenic maize plant prepared according to the method comprising:

- (i) obtaining a fertile transgenic maize plant comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene; and

- (ii) crossing said fertile transgenic maize plant with a second maize plant lacking said expression cassette to obtain a third maize plant comprising said expression cassette;

wherein said modified EPSPS gene is inherited through a female parent.

35. The maize plant of claim 34, wherein said second maize plant is an inbred.

36. The maize plant of claim 34, wherein said third maize plant is a hybrid.

37. The maize plant of claim 34, further defined as comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117.

38. A glyphosate resistant crossed fertile transgenic maize plant prepared according to the method comprising:

- (i) obtaining a fertile transgenic maize plant comprising a chromosomally incorporated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene; and
- (ii) crossing said fertile transgenic maize plant with a second maize plant lacking said expression cassette to obtain a third maize plant comprising said expression cassette;

wherein said modified EPSPS gene is inherited through a male parent.

39. The maize plant of claim 38, wherein said second maize plant is an inbred.

40. The maize plant of claim 38, wherein said third maize plant is a hybrid.

41. The maize plant of claim 38, further defined as comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117.

42. A glyphosate resistant, crossed fertile transgenic maize plant prepared according to the method comprising:

- (i) obtaining a fertile transgenic maize plant comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
- (ii) crossing said fertile transgenic maize plant with a second maize plant to obtain a third maize plant comprising said expression cassette; and
- (iii) backcrossing said third maize plant to obtain a backcrossed fertile transgenic maize plant;

wherein said modified EPSPS gene is inherited through a female parent.

43. The maize plant of claim 42, wherein said second maize plant is an inbred.

44. The maize plant of claim 42, wherein said third maize plant is a hybrid.

45. The maize plant of claim 42, further defined as comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117.

46. A glyphosate resistant, hybrid maize plant comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene.

47. The maize plant of claim 46, wherein said promoter is selected from the group consisting of a rice actin promoter, a maize histone promoter and a fused CaMV 35S-*Arabidopsis* histone promoter.

48. The maize plant of claim 47, wherein said expression cassette is derived from pDPG434, pDPG427 or pDPG443.

49. The maize plant of claim 48, further defined as comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117.

50. A glyphosate resistant, hybrid, transgenic maize plant prepared according to the method comprising crossing a first and second inbred maize plant, wherein one or both of said first and second inbred maize plants comprise a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene.

51. The maize plant of claim 50, wherein said promoter is selected from the group consisting of a rice actin promoter, a maize histone promoter and a fused CaMV 35S-*Arabidopsis* histone promoter.

52. The maize plant of claim 51, wherein said expression cassette is derived from pDPG434, pDPG427 and pDPG443.

53. The maize plant of claim 52, further defined as comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117.

54. A glyphosate resistant, crossed fertile transgenic maize plant prepared by a process comprising:

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- (i) obtaining a fertile transgenic maize plant comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
 - (ii) crossing said fertile transgenic maize plant with a second maize plant to obtain a third maize plant comprising said expression cassette; and
 - (iii) crossing said third fertile transgenic maize plant with a fourth maize plant to obtain a fifth transgenic maize plant comprising said expression cassette.

10 55. The maize plant of claim 54, wherein said second and fourth maize plants have the same genotype.

15 56. The maize plant of claim 54, wherein said second and fourth maize plants have different genotypes.

20 57. Seed of a fertile, transgenic maize plant, said seed comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene, said seed prepared by a process comprising the steps of:

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- (i) obtaining a parental fertile, transgenic maize plant comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
 - (ii) breeding said parental plant with a second fertile maize plant to produce a plurality of progeny fertile, transgenic maize plants, said progeny maize plants including plants that express a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having

isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;

- (iii) selecting from said progeny maize plants a plant having resistance to glyphosate; and
- (iv) obtaining seed from said selected progeny maize plant.

58. The seed of claim 57, wherein the progeny maize plants are two generations removed from the parental transgenic maize plant.

59. The seed of claim 57, wherein the progeny maize plants having resistance to glyphosate are selected by testing plants for resistance to glyphosate at an application rate of 1X.

60. The seed of claim 57, wherein the progeny maize plants having resistance to glyphosate are selected by testing plants for resistance to glyphosate at an application rate of 4X.

61. The seed of claim 57, wherein said second fertile maize plant is a non-transgenic maize plant.

62. The seed of claim 57, wherein said second fertile maize plant is pollinated with pollen from a male parental transgenic maize plant.

63. The seed of claim 57, wherein said parental maize plant is pollinated with pollen from said second fertile maize plant and wherein said parental maize plant is a female parental transgenic maize plant.

64. A method of increasing the yield of corn in a field comprising:

- (i) planting fertile transgenic maize plants transformed with an expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having

isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene; and

- (ii) applying glyphosate to said field at an application rate that inhibits the yield of a maize plant that does not comprise said modified maize gene,

5 wherein the yield of said fertile transgenic maize plant is not affected by said glyphosate application.

65. The method of claim 64, wherein said application rate is 1X.

10 66. The method of claim 64, wherein said application rate is 2X.

67. The method of claim 64, wherein said application rate is 4X.

68. A method of inhibiting weed growth in a corn field comprising:

- (i) planting fertile transgenic maize plants transformed with an expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene; and

- (ii) applying glyphosate to said field at an application rate that inhibits the yield of a maize plant that does not comprise said modified maize gene,

20 wherein the yield of said fertile transgenic maize plant is not affected by said glyphosate application.

69. The method of claim 68, wherein said application rate is 1X.

70. The method of claim 68, wherein said application rate is 2X.

71. The method of claim 68, wherein said application rate is 4X.

72. A method of growing corn comprising:

- (i) planting fertile transgenic maize plants transformed with an expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene; and
- (ii) treating said corn with glyphosate at an application rate that inhibits the yield of a maize plant that does not comprise said modified maize gene,

wherein the yield of said fertile transgenic maize plant is not affected by said glyphosate application.

73. The method of claim 72, wherein said application rate is 1X.

74. The method of claim 72, wherein said application rate is 2X.

75. The method of claim 72, wherein said application rate is 4X.

76. A method for producing animal feed comprising:

- (i) obtaining a fertile transgenic maize plant comprising a chromosomally integrated expression cassette comprising (a) a modified maize EPSPS gene encoding an EPSPS protein having isoleucine at position 102 and serine at position 106 and (b) a promoter active in maize operably linked to said EPSPS gene;
- (ii) cultivating said transgenic *Zea mays* plant;
- (iii) obtaining seed from said cultivated *Zea mays* plant; and
- (iv) preparing food from said animal feed.

77. The method of claim 76 wherein said chromosomally incorporated expression cassette is derived from the group consisting of pDPG434, pDPG427 and pDPG443.

78. The method of claim 76, wherein said fertile transgenic maize plant comprises a transformation event selected from the group consisting of: GJ11, GG25, FI117 and GA21.

79. A method for producing human food comprising:

- (i) obtaining a fertile transgenic *Zea mays* plant comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117;
- (ii) cultivating said transgenic *Zea mays* plant;
- (iii) obtaining seed from said cultivated *Zea mays* plant; and
- (iv) preparing human food from said seed.

80. A method for producing oil comprising:

- (i) obtaining a fertile transgenic *Zea mays* plant comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117;
- (ii) cultivating said transgenic *Zea mays* plant;
- (iii) obtaining seed from said cultivated *Zea mays* plant; and
- (iv) preparing oil from said seed.

81. A method for producing starch comprising:

- (i) obtaining a fertile transgenic *Zea mays* plant comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117;
- (ii) cultivating said transgenic *Zea mays* plant;
- (iii) obtaining seed from said cultivated *Zea mays* plant; and
- (iv) preparing starch from said seed.

82. A method for producing seed comprising:

- (i) obtaining a fertile transgenic *Zea mays* plant comprising a transformation event selected from the group consisting of GA21, GG25, GJ11 and FI117;
- (ii) cultivating said transgenic *Zea mays* plant; and
- (iii) obtaining seed from said cultivated *Zea mays* plant.

Sub 7337 83. A method of plant breeding comprising the steps of:

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- (i) planting in pollinating proximity seeds capable of growing into first and second parent plants, said first parent plant comprising a first transgene, wherein said first parent plant is capable of being rendered male-sterile by treatment of said plant with a preselected herbicide, and wherein said first plant is vegetatively and female reproductively tolerant to said treatment with the preselected herbicide;
 - (ii) cultivating said seeds to produce said first and second parent plants;
 - 10 (iii) causing said first parent plant to be male-sterile by treating said first parent plant with said preselected herbicide;
 - (iv) allowing the second parent plant to pollinate the first parent plant; and
 - (v) harvesting seeds produced on the first plant.

15 84. The method of claim 83, wherein said second parent plant is further defined as comprising a second transformation event, said second plant having negative tolerance to said preselected herbicide.

20 85. The method of claim 84, wherein said second parent plant is still further defined as male reproductively tolerant to said preselected herbicide.

86. The method of claim 85, wherein both said first and second parent plants are treated with said preselected herbicide.

25 87. The method of claim 86, wherein treating said first and second parent plants comprises an over-the-top application of said preselected herbicide.

88. The method of claim 83, wherein said first and second parent plants are selected from the group consisting of maize, wheat, rice, oat, barley, sunflower, alfalfa, sorghum and soybean.

89. The method of claim 88, wherein said first and second plants are maize plants.

90. The method of claim 83, wherein said first or second transgene comprises a mutant EPSPS gene operably linked to a promoter functional in plants.

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91. The method of claim 90, wherein the preselected herbicide is glyphosate.

92. The method of claim 91, wherein said first transgene is further defined as comprising a GG25 transformation event.

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93. The method of claim 91, wherein said first transgene is further defined as comprising a GJ11 transformation event.

94. The method of claim 92 or claim 93, wherein said second plant comprises a GA21 transformation event.

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95. The method of claim 92 or claim 93, wherein said second plant comprises a FI117 transformation event.

96. The method of claim 94, wherein the step of causing said first parent plant to be male-sterile comprises an application of from 8 ounces per acre to 96 ounces per acre of glyphosate.

97. The method of claim 96, wherein said glyphosate is applied between the V4 and VT stages of development.

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98. The method of claim 95, wherein the step of causing said first parent plant to be male sterile comprises an application of from 8 ounces per acre to 96 ounces per acre of glyphosate.

99. The method of claim 98, wherein said glyphosate is applied between the V4 and VT stages of development.

100. The method of claim 83 wherein the preselected herbicide is selected from the group consisting of glufosinate, imidazolinone, sulphonylurea, kanamycin, G418, bromoxynil and methotrexate.

101. A method of plant breeding comprising the steps:

- (i) planting a seed capable of growing into a first plant, said plant comprising a transformation event conferring herbicide resistance;
- (ii) cultivating said seed to produce said first plant;
- (iii) treating said first plant with a preselected herbicide to render pollen not having said transformation event inviable;
- (iv) allowing pollen having said transformation event to pollinate said first plant or a second plant, wherein said pollen having said transformation event remains viable following said treating; and
- (v) collecting seed from the first or the second plant.

102. The method of claim 101, wherein said transformation event comprises a mutated EPSPS gene operably linked to a promoter functional in said first plant.

103. The method of claim 102, wherein said first plant is selected from the group consisting of maize, wheat, rice, oat, barley, sorghum sunflower, alfalfa, and soybean.

104. The method of claim 103, wherein said first plant is a maize plant.

105. The method of claim 104, wherein said transformation event is further defined as comprising a GA21 or FI117 transformation event.

106. The method of claim 105, wherein treating said first maize plant with said preselected herbicide comprises treating said first maize plant with from 8 to 96 ounces per acre of glyphosate.

5 107. The method of claim 106, wherein said treating takes place between the V4 and VT stages of development.

10 108. The method of claim 101, wherein the preselected herbicide is selected from the group consisting of glufosinate, imidazolinone, sulphonylurea, kanamycin, G418, bromoxynil and methotrexate.

109. A method of testing the quality of plant seeds comprising a transformation event conferring resistance to a preselected herbicide, the method comprising the steps:

- 15 (i) planting said seeds;
(ii) cultivating said seeds;
(iii) treating the plants grown from said seeds with said preselected herbicide; and
(iv) identifying plants which are resistant to said herbicide.

20 110. The method of claim 109, wherein said seeds are selected from the group consisting of maize seeds, wheat seeds, rice seeds, oat seeds, barley seeds, sorghum seeds and soybean seeds.

111. The method of claim 110, wherein said seeds are maize seeds.

25 112. The method of claim 111, wherein said transformation event comprises a mutated EPSPS gene.

113. The method of claim 112, wherein said transformation event is further defined as comprising a GA21, FI117, GG25 or GJ11 transformation event.

114. The method of claim 113, wherein treating said plants with said preselected herbicide comprises treating with from 8 to 96 ounces per acre of glyphosate.

5 115. The method of claim 114, wherein said treating takes place between the V4 and VT stages of development.

116. The method of claim 111, wherein the transformation event comprises a gene encoding phosphinothricin acetyl transferase.

10 117. The method of claim 116, wherein said treating comprises application of glufosinate.

118. The method of claim 111, wherein the preselected herbicide is selected from the group consisting of glufosinate, imidazolinone, sulphonylurea, kanamycin, G418, bromoxynil and methotrexate.

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